

Title (en)  
Method and base station for controlling beam forming in a mobile cellular network

Title (de)  
Verfahren und Basisstation zur Steuerung einer Strahlbildung in einem mobilen zellularen Netzwerk

Title (fr)  
Procédé et station de base pour contrôler la formation de faisceau dans un réseau cellulaire mobile

Publication  
**EP 2129173 B1 20110720 (EN)**

Application  
**EP 08290502 A 20080530**

Priority  
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Abstract (en)  
[origin: EP2129173A1] The invention concerns a method and a base station (21) for controlling beam forming in a mobile cellular network: Antenna units (212) of base stations (21) of a cluster of neighbored base stations (21) apply a respective beam pattern sequence on each sector of a cell served by the respective base station (21). The beam pattern sequence is selected from a respective predefined set of beam pattern sequences and each beam pattern sequence defines a sequence of beam subsets used for communication with mobile units (41, 42, 43, 44). One of the base stations (21) of the cluster which acts as trigger base station informs all neighbored base stations of the cluster of neighbored base stations (21, 22, 23, 24, 25, 26, 27) not to change their beam pattern sequences. The trigger base station (21) controls the antenna unit (212) of the trigger base station (21) to change the beam pattern sequence applied on the sectors of the cell and sequently apply two or more different beam pattern sequences of the predefined set of beam pattern sequences on the respective sector. The trigger base station (21) triggers one or more mobile units (41, 42, 43, 44) located in the cluster of neighbored base stations to calculate one or more signal quality parameters for currently applied beam pattern sequences of the trigger base station (21). The trigger base station (21) selects an optimal beam pattern sequence from the set of the predefined beam pattern sequences based on the one or more calculated signal quality parameters and the antenna unit (212) of the trigger base station (21) applies the optimal beam pattern sequence as a new beam pattern sequence on the respective sector.

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